

## AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions within the application.

1. (currently amended) A method for dynamic timeout comprising machine-implemented steps of:

receiving a request from a requestor at a server or a process communicatively coupled thereto;

determining whether an interim message should be sent to the requestor;

wherein the interim message contains information regarding what the server is doing to process the client's request, during a time period in which it is not yet possible for the server to provide a more substantive response; and

if the interim message should be sent to the requestor, sending to the requestor the interim message referring to the request, wherein the interim message contains one or more response-related items, comprising

if processing the request involves multiple steps, an indication of which steps of the multiple steps have already been performed; or

if processing the request involves sending a second request to an external resource server, an indication of the status of the second request.

2. (currently amended) The method of Claim 1, wherein the one or more response-related items further comprise one or more of:

time estimate related to sending a response to the request;

time estimate related to sending a subsequent interim message related to the request;

an indication that the request has been received by the server or the process

communicatively coupled thereto, and an indication that describing whether the request is well formatted;

an indication of the state that the server is in;

~~if processing the request involves multiple steps, an indication of the which steps of the multiple steps have already been performed; and~~  
~~if processing the request involves sending a second request to an external resource server, an indication of the status of the second request.~~

3. (previously presented) The method of Claim 1, wherein the step of determining whether the interim message should be sent to the requestor comprises determining whether one or more of the following has occurred:

the request has been received;

the request has been successfully parsed;

the server has begun processing the request;

CPU usage of the server meets certain criteria;

memory usage of the server meets certain criteria; and

a queue of messages awaiting response by the server meets certain criteria.

4. (previously presented) The method of Claim 1, wherein the step of determining whether the interim message should be sent to the requestor comprises determining whether a second request has been sent to an external resource server.

5. (previously presented) The method of Claim 1, wherein the step of determining whether the interim message should be sent to the requestor comprises determining whether a second response to a second request has been received at the server from an external resource server.

6. (currently amended) A method for dynamic timeout comprising machine-implemented steps of:

sending a request to a server located within an arrangement of one or more servers

communicatively coupled to a network;

receiving an interim message from the server, wherein the interim message contains one or more response-related items; and  
determining whether to change a timeout value based on the one or more response-related items in the interim message;  
wherein the interim message contains information regarding what the server is doing to process the client's request, during a time period in which it is not yet possible for the server to provide a more substantive response.  
wherein the one or more response-related items comprise  
if processing the request involves multiple steps, an indication of which steps of the multiple steps have already been performed; or  
if processing the request involves sending a second request to an external resource server, an indication of the status of the second request.

7. (currently amended) The method of Claim 6, wherein the one or more response-related items comprise one or more of:  
time estimate related to sending a response to the request;  
time estimate related to sending a subsequent interim message related to the request;  
an indication that the request has been received by the server or a process communicatively coupled thereto, and an indication describing whether the request is well formatted;  
an indication of the state that the server is in;  
~~if processing the request involves multiple steps, an indication of the which steps of the multiple steps have already been performed; and~~  
~~if processing the request involves sending a second request to an external resource server, an indication of the status of the second request.~~

8. (currently amended) A machine-readable medium carrying one or more sequences of instructions for dynamic timeout, which instructions, when executed by one or more processors, cause the one or more processors to carry out the steps of:
- receiving a request from a requestor at a server within an arrangement of one or more servers communicatively coupled to a network or a process communicatively coupled thereto;
- determining whether an interim message should be sent to the requestor;
- wherein the interim message contains information regarding what the server is doing to process the client's request, during a time period in which it is not yet possible for the server to provide a more substantive response; and
- if the interim message should be sent to the requestor, sending to the requestor the interim message referring to the request, wherein the interim message further contains one or more response-related items, comprising
- if processing the request involves multiple steps, an indication of which steps of the multiple steps have already been performed; or
- if processing the request involves sending a second request to an external resource server, an indication of the status of the second request.
9. (previously presented) The machine-readable medium as recited in Claim 8, wherein the instructions, when executed by one or more processors, cause the one or more processors to act as an AAA server and wherein the requestor is an AAA client, the request is a RADIUS Access Request message, and the interim message is a RADIUS Access Challenge message that contains the one or more response-related items in a Vendor Specific Attribute in the RADIUS Access Challenge message.
10. (previously presented) The machine-readable medium as recited in Claim 8, wherein the instructions, when executed by one or more processors, cause the one or more processors to act

as an AAA server and wherein the requestor is an EAP supplicant, the request is an EAP Request, and the interim message is an EAP Notification message that contains the one or more response-related items.

11. (currently amended) A machine-readable medium carrying one or more sequences of instructions for dynamic timeout, which instructions, when executed by one or more processors, cause the one or more processors to carry out the steps of:

    sending a request to a server;

    receiving an interim message from the server, wherein the interim message contains information regarding what the server is doing to process the client's request, during a time period in which it is not yet possible for the server to provide a more substantive response;

    wherein the interim message further contains one or more response-related items; and

    determining whether to change a timeout value based on the one or more response-related items in the interim message, comprising

if processing the request involves multiple steps, an indication of which steps of the multiple steps have already been performed; or

if processing the request involves sending a second request to an external resource server, an indication of the status of the second request.

12. (previously presented) The machine-readable medium as recited in Claim 11, wherein the instructions, when executed by the one or more processors, cause the one or more processors to act as an AAA client and wherein the server is an AAA server, the request is a RADIUS Access Request message, and the interim message is a RADIUS Access Challenge message that contains one or more response-related items in a Vendor Specific Attribute in the RADIUS Access Challenge message.

13. (previously presented) The machine-readable medium as recited in Claim 11, wherein the instructions, when executed by the one or more processors, cause the one or more processors to act as an EAP supplicant and the server is an AAA server, the request is an EAP Request, and the interim message is an EAP Notification message that contains one or more response-related items.

14. (currently amended) An apparatus for dynamic timeout, comprising:  
a network interface that is coupled to a data network for receiving one or more packet flows therefrom;  
a processor;  
one or more stored sequences of instructions which, when executed by the processor, cause the processor to carry out the steps of:  
receiving a request from a requestor at a server or the process communicatively coupled thereto;  
determining whether an interim message should be sent to the requestor;  
wherein the interim message comprises information regarding what the server is doing to process the client's request, during a time period in which it is not yet possible for the server to provide a more substantive response; and  
if the interim message should be sent to the requestor, sending to the requestor the interim message referring to the request, wherein the interim message contains one or more response-related items, comprising  
if processing the request involves multiple steps, an indication of which steps of the multiple steps have already been performed; or  
if processing the request involves sending a second request to an external resource server, an indication of the status of the second request.

15. (previously presented) The apparatus of Claim 14, wherein the apparatus is an AAA server and wherein the requestor is an AAA client, the request is a RADIUS Access Request message, and the interim message is a RADIUS Access Challenge message that contains the one or more response-related items in a Vendor Specific Attribute in the RADIUS Access Challenge message.

16. (previously presented) The apparatus of Claim 14, wherein the apparatus is an AAA server and wherein the requestor is an EAP supplicant, the request is an EAP Request, and the interim message is an EAP Notification message that contains the one or more response-related items.

17. (currently amended) An apparatus for dynamic timeout, comprising:  
a network interface that is coupled to a data network for receiving one or more packet flows therefrom;  
a processor;  
one or more stored sequences of instructions which, when executed by the processor, cause the processor to carry out the steps of:  
sending a request to a server;  
receiving an interim message from the server, wherein the interim message contains one or more response-related items; and  
wherein the interim message further comprises information regarding what the server is doing to process the client's request, during a time period in which it is not yet possible for the server to provide a more substantive response;  
determining whether to change a timeout value based on the one or more response-related items in the interim message, comprising  
if processing the request involves multiple steps, an indication of which steps of  
the multiple steps have already been performed; or

if processing the request involves sending a second request to an external resource server, an indication of the status of the second request.

18. (previously presented) The apparatus of Claim 17, wherein the apparatus is an AAA client and wherein the server is an AAA server, the request is a RADIUS Access Request message, and the interim message is a RADIUS Access Challenge message that contains one or more response-related items in a Vendor Specific Attribute in the RADIUS Access Challenge message.

19. (previously presented) The apparatus of Claim 17, wherein the apparatus is an EAP supplicant and wherein the server is an AAA server, the request is an EAP Request, and the interim message is an EAP Notification message that contains one or more response-related items.

20. (currently amended) An apparatus for dynamic timeout, comprising:  
means for receiving a request from a requestor at a server or the process communicatively coupled thereto;  
means for determining whether an interim message should be sent to the requestor, wherein the interim message contains information regarding what the server is doing to process the client's request, during a time period in which it is not yet possible for the server to provide a more substantive response; and  
means for sending to the requestor, if the interim message should be sent to the requestor, the interim message referring to the request, wherein the interim message contains one or more response-related items, comprising  
if processing the request involves multiple steps, an indication of which steps of the multiple steps have already been performed; or  
if processing the request involves sending a second request to an external resource server, an indication of the status of the second request.



21. (previously presented) The apparatus of Claim 20, wherein the means for performing the steps is an AAA server and wherein the requestor is an AAA client, the request is a RADIUS Access Request message, and the interim message is a RADIUS Access Challenge message that contains the one or more response-related items in a Vendor Specific Attribute in the RADIUS Access Challenge message.

22. (previously presented) The apparatus of Claim 20, wherein the means for performing the steps is an AAA server and wherein the requestor is an EAP supplicant, the request is an EAP Request, and the interim message is an EAP Notification message that contains the one or more response-related items.

23. (currently amended) An apparatus for dynamic timeout, comprising:  
means for sending a request to a server;  
means for receiving an interim message from the server, wherein the interim message contains information regarding what the server is doing to process the client's request, during a time period in which it is not yet possible for the server to provide a more substantive response; and further wherein the interim message contains one or more response-related items; and  
means for determining whether to change a timeout value based on the one or more response-related items in the interim message, comprising  
if processing the request involves multiple steps, an indication of which steps of  
the multiple steps have already been performed; or  
if processing the request involves sending a second request to an external resource  
server, an indication of the status of the second request.

24. (previously presented) The apparatus of Claim 23, wherein the means for performing the steps is an AAA client and wherein the server is an AAA server, the request is a RADIUS Access Request message, and the interim message is a RADIUS Access Challenge message that

contains one or more response-related items in a Vendor Specific Attribute in the RADIUS Access Challenge message.

25. (previously presented) The apparatus of Claim 23, wherein the means for performing the steps is an AAA client and wherein the server is an AAA server, the request is an EAP Request, and the interim message is an EAP Notification message that contains one or more response-related items.

26. (currently amended) A method for dynamic timeout for an AAA server comprising machine-implemented steps of:

receiving a request from a requestor at an AAA server or a process communicatively coupled thereto;

determining whether an interim message should be sent to the requestor, wherein the interim message contains information regarding what the server is doing to process the client's request, during a time period in which it is not yet possible for the server to provide a more substantive response; and

if the interim message should be sent to the requestor, sending to the requestor the interim message referring to the request, wherein the interim message contains one or more response-related items, comprising

if processing the request involves multiple steps, an indication of which steps of

the multiple steps have already been performed; or

if processing the request involves sending a second request to an external resource server, an indication of the status of the second request.

27. (previously presented) The method of Claim 26, wherein the requestor is an AAA client, the request is a RADIUS Access Request message, and the interim message is a RADIUS Access Challenge message that contains the one or more response-related items in a Vendor Specific Attribute in the RADIUS Access Challenge message.

28. (previously presented) The method of Claim 26, wherein the requestor is an EAP supplicant, the request is an EAP Request, and the interim message is an EAP Notification message that contains the one or more response-related items.

29. (currently amended) A method for dynamic timeout comprising machine-implemented steps of:

sending a request to an AAA server located within an arrangement of one or more servers communicatively coupled to a network;

receiving an interim message from the AAA server, wherein the interim message contains information regarding what the server is doing to process the client's request, during a time period in which it is not yet possible for the server to provide a more substantive response, and further wherein the interim message contains one or more response-related items; and

determining whether to change a timeout value based on the one or more response-related items in the interim message, comprising

if processing the request involves multiple steps, an indication of which steps of the multiple steps have already been performed; or

if processing the request involves sending a second request to an external resource server, an indication of the status of the second request.

30. (previously presented) The method of Claim 29, wherein the steps are performed by an AAA client, the request is a RADIUS Access Request message, and the interim message is a RADIUS Access Challenge message that contains one or more response-related items in a Vendor Specific Attribute in the RADIUS Access Challenge message.

31. (previously presented) The method of Claim 29, wherein the steps are performed by an EAP supplicant, the request is an EAP Request, and the interim message is an EAP Notification message that contains one or more response-related items.